

VARIATIONS IN MORTALITY RATES OF JUVENILE
SWIFT TERNS *Sterna bergii* IN SOUTHERN AFRICA

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Swift Tern *Sterna bergii* chicks have been ringed on islands in the western Cape, South Africa, since 1977 as part of a continuing study of the species's movements and population dynamics. To date (1977-1982), a total of 7 164 chicks has been ringed and 81 individuals have been recovered after fledging (Table 1). This note considers possible year-to-year variations in mortality rates of juvenile Swift Terns.

Sixty-one Swift Terns have been recovered within 12 months of ringing for the five years 1977-1981. During this period 4 493 chicks were ringed, giving an overall juvenile recovery rate of 1,4 % (Table 1). Considerable variation exists between years from a nil recovery rate to 2,8 %. The observed number of recoveries in each year was significantly different from expected (chi squared = 31,45; $P < 0,001$) suggesting that the juvenile mortality rate does vary from year-to-year. A closer look at the seasonal distribution of recoveries for the years with an adequate number of recoveries, (1977 and 1980 - Table 1), shows that 16 out of 37 juveniles (43,2 %) were recovered in the first two months after fledging in May, compared to 3 out of 19 (15,8 %) in June and July, 1980. These are not significantly different, however, probably because of the small sample sizes.

Two important points arise from the results given above. Firstly, low recovery rates hinder statistical analyses, suggesting that other methods should be used to obtain demographic information. Secondly, it is clear that it may be incorrect to assume constant year-to-year mortality rates for any given age class in modelling bird populations.

Colour ringing of the chicks commenced in 1979 and a large number of resightings has been made to date. Analyses of these data will hopefully give more accurate estimates of mortality rates and will allow year-to-year variations to be studied in greater detail.

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TABLE 1

RECOVERIES OF SWIFT TERNS RINGED
AS CHICKS ON WESTERN CAPE ISLANDS

1977 - 1982

YEAR	1977	1978	1979	1980	1981	1982	TOTAL
ISLAND	JUTTEN	MARCUS	MARCUS	JUTTEN & MALAGAS	VONDELING & ROBBEN	MARCUS	
Number ringed	1 336	271	742	1 729	415	2 671	1 164
Number recovered to date	49	1	8	21	2	-	81
Number recovered within 12 months of ringing	37	0	3	19	2	-	61
% recovery within 12 months	2,8	0,0	0,4	1,1	0,5	-	1,4*

* Not including 1982 figure